

Samurai wasp (*Trissolcus japonicus*) Natural Enemy of the Brown Marmorated Stink Bug



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During the 1990s, the brown marmorated stink bug (BMSB) invaded the United States. In the years since, scientists have learned that many native enemies of other stink bugs in the United States will also attack BMSB. Unfortunately, those native enemies are not well adapted to BMSB and, as a result, they are not effective in keeping BMSB from damaging crops. To fill in that gap, ARS scientists in Newark, Delaware, began a worldwide search for a solution. Those explorations turned up a key natural BMSB enemy—the egg parasitoid *Trissolcus japonicus*. Also known as the “samurai wasp,” these stingerless warriors search for and destroy 60–90% of BMSB eggs in Asia.

Research underway at quarantine laboratories in Newark and elsewhere is determining how suitable the wasp is for release in the United States. Those studies show that the wasp specializes in attacking only certain kinds of stink bugs, like BMSB. Before regulatory permission could be obtained for their release in the United States, surveys conducted during 2014–2015 detected the wasp’s presence in several U.S. locations. Genetic matching studies showed that these wasps were different from the ones under ARS quarantine. Although we don’t know how it arrived, the “samurai wasp” made its way to the United States naturally and has continued to spread to new locations. As of 2016, the wasp was found in nine U.S. States. Plans are underway in some of these States to rear large numbers of these warrior wasps in laboratories in order to release them and protect key U.S. agricultural crops from BMSB damage.

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